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CASES OF CONGENITAL TUMOR.

BY ADOLF ALT, M. D.

The literature of congenital tumors on the eye, eyelids and the orbit is not so superabundant that the description of the following interesting cases seems to need an apology.

I. *Large cavernous tumor of left upper lid.*—H. R., æt. six years, a healthy boy, was brought to my office Sept. 1, 1886, on account of a swelling on the left upper lid. The father stated, that when the child was born a bluish tumor of varying size was seen to occupy the outer third of the left upper lid. When the child sucked, or coughed he observed that this tumor increased in size and became more blue. He thought he had noticed a slow, but steady growth, and was now thoroughly alarmed.

On examination, I found a bluish semi-soft swelling under the skin of the left upper lid, about the size of a small walnut, which hung over the lid margin. By pressure this tumor could be emptied, and on stooping or coughing it filled up until the skin was shining. My diagnosis was, that we had to deal with an angioma, and probably, a cavernous venous tumor. I proposed its removal and obtained the consent of the father at once.

On the same day, after the patient had been anæsthesized, I enucleated the tumor, which did not reach down into the orbital tissue. The bleeding was of no consequence whatever. I closed the wound with a few stitches which were removed on the third day. No relapse has occurred. The tumor was a cavernous venous angioma.

II. *Teleangiectasia of left lower lid and orbit.*—March 10, 1887, L. R., a baby girl, not quite four months old, was brought to my office with the following history: After birth a small nodule had been noticed in the left lower lid, but was thought of no importance, until two months ago, one day it seemed to become suddenly very much larger. The mother then thought the child had struck her eye with the fist. A leech was then applied to the tumor and this seemed to have the desired effect of reducing it in size. Six days before the child was brought to see me, it had again seemingly become suddenly much larger, and once more a leech was applied to it. This time, however, the result was not the same as formerly.

When I saw the child the whole of the lower lid was very much swollen, and discolored by ecchymosis. Pressure did not reduce this swelling, nor did it seem to cause the child any pain. There was a diffuse fluctuation, and nowhere could I feel any partciular resistance, pointing to the seat of the tumor. I advised to leave it alone for some days; until the blood should have become absorbed, in hopes to be then better able to make a diagnosis. Five days later I saw the child again. The skin was not as tense then and fluctuation was so marked that I thought that there was an abscess and made an incision. No pus, and but very little blood escaped. I now came to the conclusion that there must be a tumor in the lid, but of such a soft tissue that its lack of resistance produced the feeling of fluctuation on alternate pressure. I therefore decided to remove it, and this was done on the 24th of the same month under chloroform. After incising the skin, I found a soft lobulated tumor the size of a filbert which seemed to end at the orbital margin. It was carefully enucleated, there be-

ing but little hæmorrhage and the wound was closed with sutures. It appeared like a lipoma. Under the microscope only its true nature was recognized as that of a teleangiectasia. The wound healed kindly and the lid appeared after a few days to be of a normal size. To my great astonishment, however, the child was again brought to me five weeks after the removal of the lid-tumor in apparently as bad a condition as before. The question was now, of course, whether this was a relapse, a thing I have never seen in these cases, or whether a similar tumor had existed in the orbital tissue and had now grown rapidly forward.

On May 10, I again operated on the child. I now found a tumor of the same nature as the one I had removed from the lid, within the orbit. It was, however, much larger than the lid-tumor, being the size of a small walnut. Healing took place without an accident, and no relapse has occurred.

III. *Adeno-chondro-lipoma of the conjunctiva.*—W. W., a boy, æt. 1½ years, was brought to my office April 15, 1885, on account of a small tumor on the right eye. The parents had noticed this tumor a few days after birth. They thought that it had been slowly but steadily growing ever since.

I found a roundish tumor of a yellowish white color, situated on the sclerotic of the right eye. It commenced at the corneo-scleral margin corresponding to the vertical meridian and ran downward toward the retrotarsal fold. Its shape was that of a flat pea, and it was covered by hyperæmic conjunctiva. It could by pressure be moved somewhat to and fro upon the sclerotic, and although not easily, yet sufficiently enough to show that there was some tissue intervening between it and the sclerotic. The periphery of the cornea just where the little tumor joined it had a whitish discoloration. The tumor was easily removed, and the wound healed gently. No relapse occurred.

Under the microscope it was found to consist to the greater part of glandular tissue of the acinous type. To one side lay a round and firmer body which consisted solely of cartilage tissue of the embryonic type. Here and there was a small

amount of fat-tissue interposed between the other tissues.

IV. *Teratoma of the left upper lid near the punctum lachrymale.* —J. G., æt. 7 years, was brought to my office June 6, 1888, on account of a round tumor which had been on his left upper lid ever since he was born. It had not apparently grown any, yet it was unsightly and interfered with the closing of the lids.

I found a hard, white, round tumor sitting with a broad base on the intermarginal space of the left upper eyelid, about the size of a hemp-seed. It was not possible to move it, and it seemed, so to speak, deeply rooted in the tissue. Its situation was just above, and a little outward from the lachrymal punctum, which was pushed out of contact with the conjunctiva by the presence of this tumor. To the feeling the tumor appeared as hard as cartilage tissue.

I removed it with the scissors and with little trouble.

V. On November 30, 1888, J. B., æt. 27 years, came under my care on account of an abscess of the left cornea. He had, moreover, in appearance identically the same tumor on the same part of the left upper lid as the one described in case IV. It had been observed to exist at birth and had but little grown since. The only difference between it and the tumor in case IV. was that it had a broader base, and there was a fold of swollen conjunctiva running under it back to the semilunar fold. I removed the tumor with scissors on Sept. 4. The wound healed kindly and the conjunctival fold has since disappeared.

The microscopical examination, also, has proved these two tumors to be of the same nature. They consist of densely packed connective tissue fibres with acinous glands, a large quantity of striated muscular fibres, hair, and some fat tissue.

TWO CASES OF ORBITAL SARCOMA IN CHILDREN.

BY ADOLF ALT, M.D.

CASE I.—G. G., was a stout boy, æt. 1½ years, when I first saw him, April 5, 1886, in consultation with Dr. Laidley of this city. The previous history of the child was, that he had meningitis when about six months old. A few weeks ago the eyelids of the left eye were red and inflamed. This condition, however, soon disappeared again. About ten days ago the mother noticed for the first time that the left eye protruded and deviated outward. These conditions have since rapidly become worse. He, furthermore, has been wanting to sleep continually for some days and did not care to play. There was also some bronchial trouble.

The family history being inquired into, I found that the child's mother had a tumor the size of a goose-egg in the right axilla, that his grandmother had died of cancer, and that an aunt was now under treatment for cancer of the uterus.

When I saw the child first, the left eye was pale, and protruded considerably. There was divergent strabismus and almost total inability to move the eye toward the median line.

The next day we made an examination under chloroform. Although it was impossible to palpate a tumor in the small orbit, yet the eye could not be pressed back nor inward. There was, moreover, optic neuritis. From these conditions, and especially considering the family history, I thought I was correct in assuming the probability of a tumor growing in the orbit which should be removed. From the probable situation of the tumor I hoped to be able to remove it without removing at the same time the eyeball, but I told the parents that, if necessary, in order to clean out the tumor better, I might have to remove the eye.

After this consultation we decided on operating both mother and child at the same time. This was done April 8. The mother's tumor, which was removed by Dr. Laidley, proved to be a small spindle-cell sarcoma.

When beginning the operation on the child, I first divided the internal rectus muscle and tried to get into the orbit and at the tumor. This was, however, impossible. I therefore enucleated the eyeball. After having done so, a smooth tumor could be felt running back on the inner wall of the orbit backward into the orbital fat. Before, however; reaching the tumor, and in cutting down upon it, I opened a small cavity filled with mucoid material, which probably was a small cyst. Behind this, and firmly bound down to the orbital wall, I now felt the tumor, which was of the size of a large hazel-nut. After having removed it, the bone underneath was found to be rough. The operation was performed with antiseptic precautions and a sublimate-dressing applied.

Everything went on nicely. The wound healed rapidly, but just when I was about to discharge the patient an erysipelas of the head and face developed on April 20, to which the child succumbed on May 3, after having repeatedly seeemed to rally.

The tumor was a small round-cell sarcoma.

Case II.—On December 25, 1888, I was for the first time consulted by the father of G. K., a stout boy, æt. about 2 years, on account of the protrusion of the child's left eye. This protrusion had been noticed only three weeks previous to this consultation, and the child had been treated for it and the statement had been made, that there was surely no tumor. The family history was good.

On examination I found a considerable degree of exophthalmus forward and downward. The motility inwards was also somewhat impaired. There was but slight congestion of the conjunctival blood-vessels, and the lids could yet be closed over the eyeball. While the child was under the influence of chloroform I tried to palpate the orbital contents, but could not do so on account of the narrowness of the or-

bital cavity and the tenseness of the conjunctiva. The eye could not be pressed backward. With the ophthalmoscope the disc was seen to be grayish and indistinct in outline; the retinal arteries were just barely visible, the veins were broad but pale.

I told the father that in all probability there was a tumor in the orbit (perhaps of the optic nerve), pushing the eye forward, and that this tumor and probably the eye with it would have to be removed. His consent was not given immediately.

However, only four days after, on December 29, I was sent for with the instruction to bring everything necessary for the operation.

The condition was now altered in so far as the eyeball was inflamed, the cornea had sloughed, and the patient was very restless at night.

As matters stood, no attempt was made to save the eyeball. I enucleated it as soon as the patient was anæsthetized. After the eyeball was removed a soft tumor was found to lie in the orbital tissue out- and upward, and to extend almost to the apex of the orbit. I removed the tumor, the bulbar conjunctiva and orbital contents almost totally. There was considerable bleeding, yet the child was none the worse for it. Everything went on favorably till the child was discharged from my immediate care.

The tumor proved to be a round-cell sarcoma with portions of a myxomatous character.

Six weeks after this apparently clean operation, (I had removed a considerable quantity of healthy orbital fat from behind the growth) I saw the patient again. I found now that the tumor had grown large enough again to fill the whole orbit, to press forward both lids, and even to protrude to some extent between them. The child showed, further, cerebral symptoms, and I declined to interfere by another operation.

If ever I had another occasion to see a case of orbital tumor in a child which appears to be malignant I shall insist on the removal of the whole of the orbital tissue within the periosteum, or do nothing.

TRANSLATION.

ON THE ANASTOMOSES OF THE POSTERIOR CILIARY BLOOD-VESSELS WITH THOSE OF THE OPTIC NERVE AND RETINA.

BY CONRAD RUMSCHEWITSCH, M.D.

[*Zehender's Monatsbl. f. Augenhlkde.*]

Leber, in his celebrated work on the arrangement of the circulation and nutrition of the eye, says: "Aside from the connection between the system of retinal vessels and the one of ciliary vessels at the optic nerve entrance, these two are perfectly separated, and there is especially no connection between the two systems at the anterior end of the retina, the ora serrata." [1]

The anastomoses in the area of the optic nerve entrance are of a decidedly capillary character,[2] and although the blood-vessels coming from Zinn's ring do not only spread into the optic nerve, but also into the neighboring parts of the retina, they are so narrow and so short within the retina, that according to Leber, they cannot be seen with the ophthalmoscope. In stating this to be the general rule, Leber does not deny the possibilitiy that larger blood-vessels from the scleral ring may enter the retina, and reports the case, which has been de-

[1]Graefe & Saemisch, p. 308, vol. ii.

[2]Graefe & Saemisch, p. 547, vol. v.

scribed by H. Mueller.[1] We find, however, a passage in Loring's paper concerning cilio-retinal blood-vessels[2] which he observed by means of the ophthalmoscope, and Schleich[3] reports many such cases in which he observed such blood-vessels in conjunction with posterior cones. Similar cases are those of Benson[4] and one of Nettleship,[5] although the last mentioned case is a doubtful one on account of the fact, that the patient suffered from a papillitis, and, thus the eye was in a pathological condition.

In the year 1883, Birnbacher[6] described a case of embolism of the central retinal artery in which there also existed cilio-retinal blood-vessels. The existence of the latter was assumed, because when the other arteries were perfectly empty, two arteries coming from the temporal margin of the papilla optica (Art. maculares) and running into the region of the macula lutea remained undisturbed. Moreover, there was an area in the centre of the field of vision, measuring 15° at its largest diameter, in which sight was preserved. Birnbacher explained this, by assuming that these two blood-vessels started from the arteria centralis. This assumption was confirmed to a certain extent by the anatomical examinations of Hoffmann.[7] In beasts of prey, whose eyes are abundantly supplied with short posterior ciliary arteries, many of these are divided into two branches within the sclerotic or just before bending over into the choroid, the smaller one of which enters the optic nerve. Hoffmann found such cilio-retinal blood-vessels also in the squirrel and horse; they are less well developed in ruminants. The veins may be arranged in an analogous manner.

[1]Arch. f. Ophth., vol. ii, p. 8.

[2]Arch. der Ophth. and Otologie, vol. ii, p 163.

[3]Contributions from the Ophth. Clinic in Tuebingen, vol. i, p. 130.

[4]Ophthalmic Hospital reports, vol. x, p. 3.

[5]Ibidem, vol. ix, p. 2.

[6]Centralbl. f. prakt. Augenhldke.. p. 207.

[7]Arch. f. Ophth., xxix, 2, p. 45.

Schnabel and Sachs[1] give a different explanation of the preserved function of a certain part of the retina in embolism of the central retinal artery. Concerning the cilio-retinal vessels, they are of the opinion, that their existence would be a contradiction of embryological facts. The existence of such blood-vessels is, moreover, not proven stisfactorily, the less so, since neither H. Mueller nor Nettleship have seen the origin of such blood-vessels. Yet, the symptoms which we often have occasion to observe in embolism of the central retinal artery give good cause for the assumption of cilio-retinal blood-vessels.

Whenever we find in a retina which is generally milky and pale, a certain portion which has retained its normal color and corresponding to it a certain portion of the visual field which has preserved its normal function, and furthermore within this area a blood-vessel of normal calibre which comes from the margin of the optic nerve—it seems to be pretty safe to assume in such a case the existence of the cilio-retinal blood-vessel. I had occasion to see such a case three years ago, yet I did not at once adopt the view that there was a cilio-retinal blood-vessel. The patient, however, never returned and the case for me has remained an unexplained one.

That it is well to be careful in the diagnosis of similar cases is shown in the following case of Hirschberg.[2]

At the first examination the diagnosis of ebolism of the central retinal artery and the existence of a cilio-retinal artery seemed possible. But nine days after, this artery became also invisible, which proved of course, that the assumed cilio-retinal blood-vessel was simply a branch of the central retinal artery, which sprang at an acute angle from the part of this artery which had become obliterated. This case proves simply that we have to be careful in our diagnosis, but it does not prove anything against the existence of cilio-retinal blood-vessels in the eye.

[1]Arch. f. Augenhlkde., vol. xv, p. 11.

[2]Centralbl. f. prakt. Augenhlkde., 1885, p. 353.

Birnbacher[1] describes a case, in which he made an anatomical examination (the eye was perfectly normal). From an artery, which lay in the choroid near the optic nerve entrance and was 52 μ broad, a vessel of arterial character branched off which after a short distance, went into the papilla and bending over the choroid and outer layers of the retina, entered the nerve fibre layer of the retina and ran within it in the direction of the macula luta. This blood-vessel was 40 μ broad, and considering, that the central retinal artery was 123 μ broad, it is plain that this blood-vessel could be seen easily with the ophthalmoscope. In this case, then, there existed undoubtedly a cilio-retinal vessel.

The possiblity of the existence of an analogous vein was first proven by Elschnig.[2] The anomaly was observed in the left eye. The papilla was encircled by an irregular yellowish ring, whose breadth equaled one-fourth of the diameter of the papilla. Outward and downward (upright image) from the central vein, a blood-vessel ran which was about equal in breadth to the main branches of the central vein. This blood-vessel gave off several thin branches which ran into the retina, and then it disappeared beneath the yellow ring mentioned above. Elschnig came to the conclusion that the blood of the choroid was emptied into the central retinal vein by means of this blood-vessel. The inferior temporal retinal vein was, then, in this case a cilio-retinal blood-vessel.

A short time ago I had occasion to make a similar observation in the healthy left eye of an individual 30 years of age. The eye had M 1, 5 D. and $V = {}^{20}/_{XX}$. Inward from the papilla there is a crescent of a breadth less than one-fourth of the diameter of the papilla. Over the centre of the papilla the superior papillary artery (Magnus) begins, which is tolerably long, since its division into the superior nasal artery and the superior temporal artery takes place only after it has entered the retina. The inferior papillary artery does not exist, and

[1]Arch. f. Augenhlkde., xv, 3, p. 392.

[2]Arch. f. Augenhlkde., xviii, 3, p. 295.

the inferior nasal and temporal arteries start from the centre of the papilla as independent arteries. The veins run in the opposite direction. While yet within the optic nerve the central retinal vein is divided into three branches, of which one, which runs downward, the inferior papillary vein, is divided into the inferior nasal vein and the inferior temporal vein. Of the other two branches which run upward, one is the superior temporal vein, which has a perfectly normal course; the superior nasal vein, however, runs over the papilla and the crescent and having reached the edge of the latter suddenly disappears. It is clear that this blood-vessel which carries blood to the central retinal vein, does not bring it from the choroid but from the retina, or that here the superior nasal vein is a cilio-retinal blood-vessel.

The cases of Elschnig and my own are very similar and prove satisfactorily, that there are not only the capillary anastomoses between the choroidal and the retinal systems of blood-vessels which Leber has extensively described, but, furthermore, as he too assumes, there are anastomoses by means of broad blood-vessels, viz. venous retinal blood-vessels of the second order.

REPORT OF THE CONGRESS OF ITALIAN OCULISTS HELD AT NAPLES, SEPT., 1888.

(*From Hirschberg's Centralblatt*).

CHAIRMAN: DEVINCENTIIS.

Morano.—Therapeutics of affections of the lachrymal sac. The author is convinced that incisions into the lachrymal sac, for instance, by means of Stilling's knife, cause only a more severe contraction. He recommends his dacryocystotom, which has the olive-shape point of Weber's knife, but is considerably broader at the base. He considers it as the main point, that, by the vertical introduction of his knife the cupola of the sac is slit at the same time with the lower wall of the lower canaliculus. Through this opening he treats the lachrymal sac with nitrate of silver in substance, and besides introduces probes.

During the discussion Angelucci recommends to have this dacryocystotom made of different sizes. Tornatola thinks Tartuferi's instrument is valuable (*cf. Centralbl.* 1885). Bono speaks for the obliteration of the sac in certain cases.

Angelucci.—Investigations concerning the visual functions of the retina and the brain.

1. The physiological reaction of the retina. After having given a historical review, the author described the changes which can be seen macroscopically in the retina, when influenced by light or darkness, according to his own observations. From these he tries to form conclusions with regard to the theory of light—and color-perception. Young's hypothesis, as well as Hering's, is unsatisfactory. The descent of the pigment along the elements of the retina reduces the glare of the strong light by absorption. The author tries to establish a re-

lation between the phenomena of successive and simultaneous contrast, and the changes in the form of the elements of the retina.

2. The structure and function of the optical conductive apparatus. The author confirms from his own studies the semi-decussation of the optic nerves in the chiasma of the rabbit, dog, and in man (in union with Tornatola). He then speaks of the roots of the optical tract, and gives preference to Weigert's method as against Stilling's. Against Stilling he declares that the optic tract does not give off any fibres to the pedunculus. and states that the strong bundle running backwards from the tract in the region of the external corpus geniculatum is not, as Stilling describes it, of a nervous, but of a connective tissue character. Finally the author ascribes the same qualitative function to the pulvinar, the corpora geniculata, and the corpora quadrigemina. This is also confirmed pathologically, at least in so far as a focus localized in any of these centres, always produces homonymous lateral hemianopsia.

3. The visual qualities of the cortex of the brain. The author describes experiments on pigeons, rabbits and dogs, and comes to the conclusion that the act of seeing is not dependent in its totality on the integrity of the cortex. In common with others he finds that the reductions in sight following a lesion to the hemispheres is not due to a direct injury of the visual centres, but to secondary influences. He arrives at this conclusion from the fact that injuries to different other portions of the brain, which have nothing to do with the act of seeing, will cause passing reductions of vision. He finally designates the mesocephalic ganglia as the seat of the sensitive act of vision, and the cortex of the occipital lobe as the seat of the intellectual act of vision. Only the mammalia have intellectual vision. He then gives the history of 42 cases of lesion of the cortical visual area in man which are reported in literature. The author speaking of word-blindness tries to subdivide it in a way similar to the subdivisions of aphasia. He differentiates between: 1, sensorial word-blindness, which is

conjoined with loss of the optical memory; 2, word-blindness from motor-lesion with aphasia; 3, word-blindness due to a lesion of the conducting apparatus between the optical memory -centre and the centre for articulation. * * *

* * * *Scimemi.*—On neuritis optica due to a cerebral tumor. Several cases with autopsies. The author says it is unnecessary to ligate the optic nerves during the autopsy, as Leber recommended. The enlargement of the inter-vaginal space remains visible, even when the fluid has escaped.

The author injected salt-solution into the arachnoidal space of rabbits when under the influence of curare. The experiments were arranged similarly to those of von Schulten. He found passing evidences of stasis in the papilla after every injection. The same resulted from injections of agar-agar with india ink (Deutschmann). Since the choked disc is of an inflammatory nature, the author finally confesses his belief in Leber's theory, that the hydrocephalic fluid has an irritating influence upon the optic nerve, and especially on the papilla, but he could not produce a choked disc whether he injected tubercular masses into the cranium (Deutschmann), or mercury (Manz); he succeeded, however, in causing neuritic symptoms by injecting a small drop of mercury into the inter-vaginal space. Yet, this does not prove that in a case of cerebral tumor, the choked disc is produced according to Leber's theory.

Scimemi.—On corneal astigmatism after extraction of cataract. The author has made ophthalmoscopic measurements of 146 eyes, and finds that the corneal astigmatism after extraction is due partly to an increase in curvature in the horizontal, and to a decrease in the vertical meridian. He sees the cause of this result in the action of the recti muscles, and he thinks further, that the shifting forward of the corneal wound-lip is due to the same cause.

In the discussion Angelucci states that the corneal astigmatism after extraction is never regular. He, therefore, recommends Placido's disc for the examination, as well as ophthalmometric measurement in four different meridians and with prisms of different angles.

Moauro shows specimens of an enucleated eyeball with retinal cysts and capsular cataract.

During the discussion Falchi states that there are two kinds of cells found in capsular cataract, viz., connective tissue cells with great nuclei and epithelial cells. * * *

* * * *Addario.*—1. Recommends an antiseptic hood made of silk over which the bandage for the eye is applied.

2. In lachrymal troubles he recommends to scrape out the lachrymal sac by means of a Hebra's spoon through the slit canaliculus.

To this Devincentiis states that such a procedure is only indicated when there are fungoid vegetations in the sac, never against fibrous strictures nor in acute dacryocystitis.

Falchi.—On non-congenital hydrophthalmus. Two cases described microscopically. The thinnest parts are at the periphery of the cornea and around the optic nerve entrance, that is, at the site of the two large lymph-channels of the eye. Hydrophthalmus begins with iritis and closure of Fontana's spaces, followed by secondary glaucoma.

Addario.—Bacteriological studies of five chalazia. The tumors were neither soft nor suppurated. Neither the cultures from fresh sections, nor those from the hardened specimens showed any micro-organisms. In suppurated foci, however, the author found the staphylococcus pyogenes albus.

Gallenga.—1. Sclerosing fibroma of the lids. A girl, æt. 19 years, had an enlargement of the left upper lid for three years, causing it to hang down over the cheek. Within there was a hard tumor over which the skin could be moved. This tumor weighed when removed 13.5 grammes. Microscopically it consisted of sclerosed connective-tissue of a hyaline appearance. There were several deposits of lime and some lamellæ of genuine bone-tissue; no osteoblasts were found at their edges. The tumor seemed to have sprung from the fibrous tissue of the tarsus.

2. A case of congenital tumors of the palpebral conjunctiva and the retrotarsal folds. The tumors showed organic muscular fibres and acino-tubulous glands. The author had de-

scribed similar cases before and called attention to the one described by Boegel (1886).

Gonella related that he had observed a case of dermoid of the conjunctiva near the outer canthus which contained organic muscular fibres.

Devincentiis has also seen such a case and several cases of congenital cysts which were combined with changes in the excretory ducts of Krause's glands.

Angellucci thinks that the cases described by Gallenga might be myomata and of later origin.

Gallenga says that the formation of glands points to their congenital character.

Devincentiis.—1. Demonstrates by drawings two cases of intra-ocular cysticerus, and microscopic specimens of a third case.

2. Specimens of hyaline degeneration of the contents of the eyeball in a case of anterior scleral staphyloma.

3. A modification of the operation for trichiasis by transplantation of the ciliary margin.

4. Extracted cataract of a Polish lady, æt. 108 years. In the part of the anterior capsule which he had removed, he found one endothelial cell with karyo-kinesis. * * * * * * *Bono*—1. Electrolysis of lymphatic œdema of the lids.

2. He recommends as operation for Trichiasis the method of von Wecker with partial tarsoraphy.

3. He praises sozo-iodol in ophthalmic therapeutics.

4. He states that parenchymatous keratitis is always syphilitic, but that mercury is not always well borne in such cases.

Scimeni says the very reason for the latter fact is that the disease is not always of a syphilitic nature. * * * * * * The next congress will meet at Pisa, September, 1890.

ABSTRACT OF CLINICAL LECTURE ON THE USE OF GLASSES IN HYPERMETROPIC CHILDREN.

BY N. C. MACNAMARA, F. R. C. S.,

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The subject I wish to direct your attention to is the desirability of ordering glasses to be constantly worn by children suffering from absolute hypermetropia. By absolute hypermetropia, we mean that a person having an error of refraction from this cause is unable to read the test types numbered 6, at a distance of 20 feet, or about 6 metres; in other words, he cannot come up to the standard of normal vision or to $\frac{6}{6}$, distance from type.

$\frac{\text{VI}}{\text{—}}$, number above type.

The question is, are we to order spectacles for hypermetropic children; if they are ordered glasses, are they to be worn constantly; and lastly, do cases of hypermetropia ever improve under proper treatment?

In the first place I would put on one side all cases of hypermetropia complicated with strabismus, a class of cases the consideration of which we may defer to another lecture. I would refer now to the circumstances of children who, after reading or writing for some little time, especially by gas or lamp light, complain of their eyes becoming very irritable, so much so as to prevent them from continuing their work with any comfort; these children frequently also suffer from headache after reading for an hour or so. We may find on examining the eyes, let us suppose of a boy 8 years of age, with symptoms such as those to which I have referred, who can

only read $^{6}/_{XII}$ with either eye, that possibly after considerable effort he can just make out $^{6}/_{IX}$, but is quite unable to decipher letters marked VI at a distance of twenty feet. With convex 1.50, D. (dioptrics), this lad can distinctly see $^{6}/_{VI}$, and 1 of Snellen's small types at 12 inches; the patient, therefore, is obviously suffering from absolute hypermetropia. (See Donders' "Accommodation and Refraction of the Eye," p. 242.) When this boy's eyes are completely under the influence of atropine, with +3.5 D. he can read $^{6}/_{VI}$ with both eyes. We therefore add the amount of his latent and manifest hypermetropia together, and order him spectacles of half the combined figures, or in this case +2.5 D. But then comes the question, is the patient to wear these glasses constantly?

Donders, in his work above referred to, page 282, observes that "in youth if relative or absolute hypermetropia exists, then, notwithstanding every effort of accommodation, distant vision is not perfect, we must consequently assist it with glasses, and order such patients always to wear their spectacles." He adds "when patients can read $^{6}/_{VI}$ without glasses, though hypermetropic, we should not press spectacles to be worn constantly, but when older such patients will always have to wear glasses." These rules, I believe, still guide most surgeons when ordering glasses in cases of absolute hypermetropia. I am of opinion, however, that we may often do much to improve the sight of children suffering from even absolute hypermetropia by allowing them, if necessary, to wear glasses while at work, but not for distance, and when reading and writing to discard their spectacles to a considerable extent. My reason for holding this opinion is based on the fact that by far the majority of young children are hypermetropic, and a very large proportion of these children grow out of the hypermetropia and become emmetropic; but I think this change may possibly be delayed, if not prevented, by the constant use of spectacles.

Donders (page 245) endorses a statement made by Jaeger to the effect that the eyes of nearly all newborn children are myopic; but he remarks that the myopia soon disappears, and

gives place to emmetropia. Jaeger found that no less than 78 per cent of infants are myopic, 17 hypermetropic, and 5 emmetropic. Donders adds: "I have in the fifth and sixth, and sometimes in the fourth year, demonstrated considerable hypermetropia, and have never seen this condition disappear later in life." In 1879, however, Ely re-opened this question; he found that of 154 children, when fully under atropine, no less than 108 were hypermetropic. Königstein discovered that without exception 300 newly-born infants were all hypermetropic. Lastly, Dr. Horstmann, of Berlin, states that of 50 infants, new-born, 88 per cent were hypermetropic; of 50 children from 4 to 6 years old, 86 per cent were hypermetropic; of 50 children from 4 to 6 years old, 88 per cent were hypermetropic.

I have for some years past examined a considerable number of infants and children when under the effect of atropine, and I can fully endorse the correctness of Dr. Horstmann's figures. In fact, hypermetropia is the most frequent condition of the eyes of children, depending, I think, upon the formation of the orbital fossa and of the eyeball, which are relatively flatter to the rest of the skull in childhood than they are when the normal growth of the head is completed. This being the case, if from bad hygienic conditions of body or of eyes, a child's development is arrested, his eyes will retain the hypermetropic condition of childhood. The eye, like any other organ of the body, unless called upon to struggle with the other members for existence, suffers in the long run to a very remarkable extent· and a fault in the form of the eyeball thus acquired by the parents is frequently intensified in their sons and daughters. Supposing, therefore, parents insist upon their children, say, from 4 to 6 years of age, being sent to school, it is obvious that some 88 per cent of them are hypermetropes; if in robust health, such children overcome their error of refraction, if it be an error, by means of increased accommodation; if weakly, however, such children cannot keep the necessary forced action of the ciliary muscle; it gives way, and in their efforts to get more work out of it arises the irritability of the eyes and headache from which they suffer.

Doubtless we may alleviate the symptoms complained of by such patients, and order them convex glasses, which will relieve the ciliary muscle from overstrain; but is it not possible, that in doing this, we fix the eyeball in its flattened condition—in fact, perpetuate the state of hypermetropia? For although this condition of the eyeball exists in 88 per cent. of young children without the employment of lenses, by far the majority of them grow up to be emmetropic. I think this hypermetropia is especially likely to become permanent in the case of rachitic children, because the sclerotic is one of the connective tissue series, and, like the bones and other members of the series, often suffers in rickets.

My idea, therefore, is that, unless in cases of hypermetropia complicated with strabismus, we should, if practicable, rather than order children glasses to be worn constantly, do what we can to place our patients in a condition where they will not require to use spectacles, and by exercise and the amusements of country life, develop their eyes and bodies in a healthy manner. The less they have of books until they are eight years of age the better. If they must go to school, let them learn to play; there is more chance of their being behindhand in this respect at the present day than in the matter of reading and writing.

This idea is not a mere theory; I have a number of recorded cases, of which the following is not an overdrawn picture showing the advantage that may follow treatment of this kind; but I refer particularly to this case because I was associated in it with Mr. Mackinlay, and we have, therefore, the independen observations of two surgeons as to the symptoms and the course which the case has run.

C. C. M., a well-built lad, tall for his age, who, when first seen on account of his eyes in October, 1882, was seven years old. He was then suffering from great irritation of his eyes after any attempt to learn his lessons. On examination it was found that in

October, 1882, his vision in right eye was $^{6}/_{XXIV}$ with+1.75 sph. c.+1.50 cyl.=$^{6}/_{XII}$. His vision in left eye was $^{6}/_{IX}$ with+ 1.50 D.=$^{6}/_{VI}$.

April, 1887, his vision in right eye was $^{6}/_{XVIII}$ with+1.50 sph. c.+1.50 cyl.=$^{6}/_{IX}$. His vision in left eye was $^{6}/_{VI}$ with+1 D.

December, 1888, his vision in right eye was $^{6}/_{XII}$, with+1 sph. c+1.25 cyl.=$^{6}/_{VI}$. His vision in left eye was $^{6}/_{VI}$.

This lad's sight, therefore, has in six years improved in the right eye without glasses from $^{6}/_{XXIV}$ to $^{6}/_{XII}$, and in the left from $^{6}/_{IX}$ to $^{6}/_{VI}$. In place of having been increased, the power of his lenses has steadily been reduced in strength. There is every reason to suppose that this improvement will continue during the next two years, the lad being now thirteen years of age. Our patient since 1885 has been at school, not only in a particularly healthy part of the country, but also under a gentleman who loyally carries out the great principle of equal culture for the body as well as for the mind. The lad is not only good at most games, but also an excellent shot at a rabbit. While C. C. M.'s eyes have been thus improving, it is interesting to note that his head has increased an inch and a half in circumference, and doubtless the depth of his orbital fossæ and his eyeballs have grown in an equal proportion. He has never used his spectacles except in school hours, and now frequently reads ordinary print without them.

This treatment was based on the opinion that hypermetropia is the normal, or at any rate the common, condition of children's eyes; but that, if healthy growth and development of all parts of the body progress in regular order, hypermetropia gives way to emmetropia or normal vision by the time a boy has reached his sixteenth or eighteenth year. On the other hand, children reared in our large cities are too often defective in their tissue-forming power; not a few are rachitic to a greater or less extent. Many of these children are almost from infancy set to work in gloomy rooms. Conditions such as these, with perhaps faulty food, that is defective in tissue-forming elements, especially in phosphate of lime, tend to prevent proper development, and therefore to perpetuate the hypermetropia. The use of glasses in such cases is, however, only palliative, and, I think, tends to obviate the necessity for

growth of the sclerotic and cornea, and therefore may rather fix the formation of the child's eye on into manhood, especially if glasses are constantly worn. As I have before remarked, we should, if possible, relieve such children from work and attend to their surroundings. But, supposing a child has reached his eighth year and has difficulty in his studies on account of hypermetropia, we may order him glasses so as to enable him to work, but he should only wear them when in school; and it is well, if practicable, to reduce the power of his lenses about every two years until the lad has ceased growing, when we can expect no further improvement. I am convinced that treatment of this kind may in some cases lessen the degree of hypermetropia, if it cannot completely overcome it. Hypermetropia is obviously a growing evil, due, it may be, in some measure, to the causes to which I have referred.—*British Medical Journal.*

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM. THURSDAY, JANUARY 31, 1889.

J. W. HULKE, F.R.C.S., F.R.S., President, in the Chair.

Exceptional Forms of Choroiditis.—Mr. Jonathan Hutchinson commenced his communication on this subject by remarking that the recognition of the peculiar and very striking forms of atrophy which followed on choroiditis was among the earliest achievements of the ophthalmoscope. Nor was it long afterward that the scattered form called "disseminate" was associated with syphilis. As soon as we obtained the means of recognizing the subjects of inherited syphilis during childhood and adolescence, it was observed that certain somewhat peculiar forms of choroiditis and choroido-retinitis were presented in young persons who had notched teeth, had suffered from interstitial keratitis, and some of whom were deaf. Next in course of time came the observation that in high degrees of myopia, in addition to the crescentic patches of denudation which were formed at the side of the disc, the choroid was liable to atrophy at the yellow spot, and in exceptional cases, irregularly at other parts of the fundus. Whether it could be said that any process of inflammation preceded the atrophy in thess cases of scattered changes in connection with elongation of the eyeball might be matter of doubt. Still later, a peculiar form of choroiditis was observed as occurring near to the disc and yellow spot in middle-aged or elderly persons, in which the changes consisted of very minute spots, which, as time went on, might coalesce and form patches. The first observations respecting this disease were made by Warren Tay, and published by Mr. Hutchinson. If to the forms of choroiditis above mentioned we added the secondary changes which

had been recognized as following on injuries,certainothers in which recurring hæmorrhage occurred, and the rare instances in which tubercle had been observed, it was believed that the present state of our clinical knowledge in reference to choroiditis would be fairly stated. At any rate choroiditis had not been associated with any precision with other causes than those adverted to. Probably, however, all ophthalmic surgeons had recognized that there were examples of choroiditis met with in practice which it was difficult to assign to any one of the above groups, more especially that there were cases in which the conditions common in choroiditis disseminata were closely simulated, and yet the history of syphilis, whether acquired or inherited, was wholly wanting. These latter cases were, it was suggested, of importance in a double sense, that is, both as regards their treatment and because it had been thought by some that choroiditis disseminata was in itself almost a pathognomic symptom of syphilis, and it had been used, as notched teeth and keratitis were, as an important and conclusive aid to diagnosis. No attempt, as far as the author was aware, had been made to connect choroiditis with any other diathesis than that resulting from syphilis. Although we know that arthritic iritis was very common, no one had ever diagnosed choroiditis in such association; nor had it been asserted that struma, which was seen to be the parent of certain skin diseases, notably of lupus, ever stood in a similar relation to disease of the choroid. Especially it was to be noted that no form of choroiditis (always excepting the syphilitic) had been found to occur in association with inflammatory affections of the pia mater of the brain, such, for instance, as those which produced the adhesions that constituted the chief lesion in general paralysis of the insane. In all brain diseases we look carefully at the optic disc, but we do not expect to get any help in our diagnosis from morbid conditions in the choroid. Mr. Hutchinson next stated that he proposed on the present occasion to keep the subject within bounds by leaving wholly aside the common forms of the disease, such, for instance as the syphilitic varieties, those resulting from in-

juries, and those complicating myopia. He proposed to deal only with certain exceptional forms. It might be convenient, however, before proceeding, to offer the following list of the principal clinical groups of choroiditis, appending to each name of group a few brief words as to peculiar features and grounds of diagnosis. The choroiditis of myopia: Usually central around the disc or at the yellow spot, but sometimes occurring in scattered patches. A chief element in the diagnosis was the presence or otherwise of myopia in a high degree. Choroiditis senilis centralis. Tay's choroiditis: Always central and never causing the denudation of large areas; met with only in those past middle age, but occasionally simulated in syphilis. Choroiditis as a family disease: Various in form, often beginning in childhood, but sometimes not till middle life. Several members of the same family affected and the changes usually aggressive. Tay's choroiditis might sometimes occur as a family malady. Choroiditis in early periods of syphilis: Analogous to the exanthem eruptions of secondary syphilis, always in scattered patches and usually symmetrical; might be completely cured by treatment. Choroiditis in late periods of syphilis: Analogous to the tertiary or lupoid eruptions on the skin, always serpiginous and aggressive, often not symmetrical; benefited by treatment, but often not cured. Choroiditis of inherited syphilis: Either of the two preceding forms might occur in inherited syphilis: The periphery of the fundus was often alone affected. Choroido-retinitis simulating retinitis pigmentosa: This group included cases the result of blows, and many of those due to inherited syphilis. Almost always aggressive, usually attended by changes in the disc. Choroiditis without obvious cause: Usually but not always occurring in young adolescents, and, with an interval symmetrical, changes often serpiginous, as in tertiary syphilis ("lupus of choroid"), but sometimes disseminate. Not distinguishable from syphilitic cases but by the absence of specific history. Hæmorrhagic choroiditis: Very rare, seen in growing adolescents and in connection with sexual disturbances. Liability to repeated hæmorrhage into the choroid. Analogous to the

cases of recurring vitreous hæmorrhage, and sometimes associated with them. Choroiditis with iritis and cyclitis: Characterized by extending, with definite recurrences, through the whole life. Associated with chilblains. Choroiditis following blows in the eye: This was to be distinguished by scars caused by lacerations. It was a progressive form of choroido-retinal disorganization, always limited to one eye. Choroiditis consequent on the deposit of tubercle: No proof had as yet been afforded that tubercular disease of the choroid was aggressive. It might, however, easily be the fact that what he had termed lupus of the choroid was associated with tubercle. Under the head of choroiditis as a family disease, Mr. Hutchinson mentioned five series of cases from his own experience, and said that the number might easily be extended. In the first many children suffered, and the failure of sight was attended by failure of intellect and paraplegia. In the males there was remarkable growth of the mammary glands.

In another series two sisters suffered alike, and there was a history of proclivity to insanity. In another, three brothers were affected, and none until middle life, there being no other ailments whatever. These family forms were, it was suggested, to be compared with Kaposi's disease, retinitis pigmentosa, and other maladies which went to prove that under this law of inheritance, the children born to certain couples might possess by structural idiosyncrasy a weakness of certain tissues and organs which rendered them liable to disease at a certain age. Two cases of hæmorrhagic choroiditis were narrated, both the patients being young men. A comparison was drawn between these very rare cases and the somewhat more frequent ones in which recurrent hæmorrhages took place into the vitreous body. Examples of the latter had been brought before the Society by Mr. Eales, of Birmingham, and himself some years ago, and all their cases had occurred in young men. This limitation of the malady to one sex and one period of life had been confirmed by other observers. Mr. Hutchinson said he did not know of any case-records of hæmorrhagic choroiditis, but Mr. Nettleship had, in a reference to it, spoken of it as

a disease of young men. On the other hand, Mr. Power had recorded a very remarkable example of acute hæmorrhagic choroido-retinitis in a young girl. It was a peculiar case, and was supposed to be due to amenorrhœa, thus confirming the supposition that variations of vascular tone in connection with the sexual system were the usual cause. The next case described was an important one, in which the notes extended over nearly twenty years. The patient, a married man, in whom there was no history of syphilis, had suffered from most extensive choroiditis in both eyes. The progress of the disease had been marked by very distinct recurrences at intervals of a few years, attended by pain and increase of failure of sight. One pupil was almost closed by adhesions, and in both some tendency to cyclo-iritis had been noticed. It was suggested that this case was really of the same nature as the examples of relapsing cyclitis so well known in association with chilblain proclivity, and sometimes with inheritance of gout. A group of three remarkable cases was next referred to, in which young women, apparently in good health, had become the subjects of aggressive choroiditis in both eyes without obvious cause. In all the suggestion of inherited syphilis seemed quite excluded by the family history; but in one in whom periostitis of the tibia was present, it was possible that syphilis had been conveyed in vaccination. Mr. Hutchinson said that, so far as the objective phenomena were concerned, he knew of no means of distinguishing these cases from the common syphilitic type. The absence of history and of concomitant symptoms were the only diagnostic guides. All were of the serpiginous form (lupus of choroid), and in two, although the patients looked strong, strumous disease of lymphatic glands had occurred. With the cases last mentioned were given three others, of which men were the subjects, and in which the disease began later in life, the peculiarity again being the entire absence of probability as to syphilis. As in the preceding, the common conditions of syphilis were exactly simulated. In concluding his paper, Mr. Hutchinson said that he sought diligently, but quite without success, for any guiding symptoms

by which to distinguish the cases of choroiditis which were not syphilitic from those which were so. He had presented, in illustration of what he said, a great number of very good drawings, and he was quite sure that if he were to place them all side by side on the table, no one would be able by reference to the appearances presented to pick out the non-syphilitic ones. Under these circumstances it still remained to some extent an open question whether, even in the exceptional cases in which the evidence against syphilis seemed the strongest, we ought yet to suspect its presence. There were obscure ways in which specific contamination was sometimes effected without the patient's knowledge; and, as regards inheritance, it must be admitted that it was not always possible to find its proof. All must be familiar with cases in which for long the diagnosis of syphilis had been abandoned, until unexpectedly some chance collateral fact came to light and revealed it. He also adverted to the extreme difficulty of recognizing signs of activity in the processes of choroiditis, and of distinguishing cases which were still aggressive from those which had come to an end. He related some very remarkable instances of improvement from treatment by mercury and iodides, under conditions which had at first been thought hopeless. Almost the only symptom which he knew of as implying aggressiveness was the existence of a narrow line of yellowish white around the patches, and it was by no means always present. His facts justified him, he said, in urging that whatever the stage and whatever the diagnosis, whether syphilitic or otherwise, mercury ought to have a prolonged trial in all cases of choroiditis. It was very remarkable what excellent sight might be regained, in spite of the most extensive destruction of the membrane. The President had met with cases of choroiditis in which no evidence of syphilis was obtainable, but which, so far as the ophthalmoscope picture was concerned, could not be distinguished from those of syphilitic origin. He agreed with Mr. Hutchinson as to the value of mercury and iodide of potassium, even in a very late stage of choroiditis. Dr. Mules was able to add to Mr. Hutchinson's list one more case of hæmorrhagic

chloroiditis. The patient was a young lady, aged 19, under the care of his father. Choroidal hæmorrhage occurred at intervals of four to six weeks during which time menstruation was suppressed. About three or four months after the fourth recurrence of the hæmorrhage she died of apoplexy. Dr. Argyll-Robertson had seen numerous cases of choroiditis in which there was no specific taint. He thought that the area of the fundus chiefly affected might aid in diagnosis, the syphilitic variety affecting chiefly and by preference the periphery, whereas in the other varieties the stress of the disease fell upon the central part. In the syphilitic form also both eyes were gradually affected nearly equally, and the patches were more or less symmetrically arranged in the two eyes; this was not so generally the case in the non-specific varieties. Mr. Warren Tay asked whether some exceptional cases of myopic choroiditis might not closely simulate the syphilitic form, and referred to one case, a lady, in whom no evidences of syphilis could be obtained, but whose choroids exhibited changes extremely like those caused by syphilis; her refraction was myopic. Mr. Hutchinson, in reply, said he well remembered the case referred to by Mr. Tay, and fully agreed with him that myopia might induce changes very like those of syphilis: That fallacy was, however excluded in the cases which he had cited by the fact that no myopia was present in any one of them. He could not agree with Dr. Argyll-Robertson that syphilitic choroiditis might be distinguished by its being usually peripheral. That due to inherited taint was often so, but that from acquired disease was often—indeed, usually—central. Although he had adduced evidence in support of the belief, he must confess that he did not feel quite so certain as Dr. Argyll-Robertson and the President appeared to be that there were cases which resembled syphilis and yet were not of that nature. He thought that all such exceptional cases should be carefully recorded and the facts sifted, not only with the hope of deciding the syphilitic question, but of discovering other antecedents which might possibly be the causes of the disease.

PRIMARY RETINAL PHLEBITIS.—Dr. Mules (Manchester) exhibited ophthalmoscopic drawings and read notes of three cases of primary retinal phlebitis. In two of these, clots in the veins were clearly seen with the ophthalmoscope. In the first and second cases the retinal changes cleared, leaving the patients without ophthalmoscopic evidence of any visual disability; the fields of vision showed only well-marked central scotomata. The third case, occurring in a man aged 80, was of exceptional interest, for in addition to the phlebitis there was an exudative choroiditis of a gouty character, the first instance in which such a condition had been substantiated. The author expressed a hope that more of these cases would be recorded, and a careful study made of the disease of the intra-ocular, concerning which our knowledge was as yet very scanty. Mr. Hutchinson was greatly interested in Dr. Mule's account of his cases. Some years ago he had had several cases under his own care in which he thought retinal venous thrombosis had occurred, and in one of these the thrombus had shifted its position in the vein during the time the patient was under care.—*British Medical Journal.*

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